

NEW SPECIES OF NORTH AMERICAN CERATO-
POGONIDÆ AND CHIRONOMIDÆ

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The species described below are in part representatives of less well known genera some of which not having been recorded from this country before, and in part members of the genus *Metriocnemus* which are new or insufficiently described.

Ceratopogon Meigen

This genus as now restricted is defined as having microscopically pubescent eyes; humeral pits more or less developed; empodium very short or absent; claws of the female rather large; wings broad, milky white owing to the absence of microtrichia, macrotrichia absent or restricted to a few hairs around apical margin, two subequal radial cells normally present, fork of the media with rather long stem or lower branch widely interrupted at base.

Of the numerous species recorded in earlier years from North America and formerly included in this genus, only two, *C. culicoidithorax* Hoffm. and *C. lacteipennis* Zett., have been left here. Those placed by Malloch (1915) in this genus and those listed by me in "A list of the Insects of New York" save for *C. culicoidithorax*, have been transferred to *Atrichopogon*. *C. culicoidithorax*, previously recorded from Karner, N. Y., also occurs in Johnstown and Ithaca (April and May). *C. lacteipennis* Zett., an European species and previously recorded from Greenland, also occurs at Freeville and Ithaca, N. Y. (May and June).

Neoceratopogon Malloch

Alluaudomyia Kieffer. Voyage Alluaud et Jeannel, 1913: 12.

Neoceratopogon Malloch. Bull. Ill. State Lab. Nat. Hist. 11: 310. 1915.

Thysanognathus Ingram and Macfie. Ann. Trop. Med. 16: 244. 1922. (For *Prionognathus*, preoccupied.)

Prionognathus Carter, Ingram and Macfie. Ann. Trop. Med.
14: 309. 1921.

Isæcacta Garrett. Seventy New Diptera. 1925: 9.

The genus *Neoceratopogon* was erected for *Ceratopogon bellus* Coq., a name which Johnson (1925) later placed as a synonym of *Neoceratopogon splendidus* (Winn). In 1913 Kieffer erected the genus *Alluaudomyia* for *imparunguis* Kieff., later (in Faune de France) placing *C. splendidus* Winn. in the same genus. Should *A. imparunguis* and *C. splendidus* prove to be congeneric as appears to be the case judging from the description, *Alluaudomyia* has precedence over *Neoceratopogon*. Ingram and Macfie (Bull. Ent. Res. 15: 66. 1924-25) acknowledge the synonymy of *Thysanognathus* with *Neoceratopogon*. The description of *Isæcacta poeyi* Garrett applies perfectly to *C. bellus* Coq., so that the name of *Isæcacta* also falls into synonymy.

Pseudobezzia Malloch

This genus, which was erected for *Ceratopogon expolitus* Coq., is represented in the U. S. National Museum by a single male specimen. Dr. Alan Stone of the Museum writes that the posterior branch of the radius is bowed down near the base but not angulate, the r-m cross-vein joining it a short distance distad of its origin and the media forks distad of the cross-vein. The front femora are provided with two spinous bristles on the apical half of underside, the other femora lack bristles. Until the female of the type species is found it is impossible to say whether it is more closely related to *Bezzia* or to *Stilobezzia*.

Parabezzia Malloch

(*Eukraiohelea* Ingram and Macfie)

The genus *Parabezzia* was erected in 1915 with *P. petiolata* Mall. as the type. In the type species femoral spines are lacking and the media is short petiolate. Mr. H. H. Ross of the Illinois State Laboratory of Natural History in a sketch of the wing sent me indicates that in the type and in one paratype the cross-vein is placed at the junction of the two branches of the radius, the posterior branch not being angulate at base; in the second para-

type the posterior branch is slightly bowed down near the base, the cross-vein intersecting it a short distance from its origin.

Ingram and Macfie (Ann. Trop. Med. 15: 347, 1921) erected the genus *Eukraiohelea* for two African species which have femoral spines but have a wing venation similar to the type of *Parabezzia petiolata*.

An examination of the paratype of *Bezzia elegantula* Johannsen (1908) shows that the cross-vein of the wing is placed slightly before the junction of the two branches of the radius, the anterior branch being but little longer than the cross-vein, the posterior branch not elbowed near base and ending very slightly distad of anterior branch of cubitus; the petiole of the media shorter than the cross-vein, its anterior branch entering the wing margin very slightly behind the wing tip. The fore femora are armed with two or three short weak spines on the underside near the middle; the last tarsal segment of all feet provided with a single large claw which has a short basal tooth.

On the basis of wing venation and femoral structure *Bezzia elegantula* should be placed in *Eukraiohelea*. It seems, however, that the distinction between *Eukraiohelea* and *Parabezzia* is exceedingly slight, the presence of the feeble spines in the middle of the femora in *B. elegantula* being the only differential character. For the present I prefer to regard *Eukraiohelea* as a subgenus of *Parabezzia*, and both closely related to *Stilobezzia*.

Lasiobezzia Kieffer

This genus differs from *Bezzia* in having hairy wings. The species described below differs from *L. pilipennis* Lundström, the type of the genus, in lacking femoral spines and in having the posterior branch of the radius produced nearly to the wing tip.

Lasiobezzia unica new species.

♀. Head dark brown, eyes separated over the base of the antennæ by a distance about equal to the diameter of three facets. Antennæ, including basal segment, yellow, apical half of flagellum dusky; segments 2 to 9 combined are two-thirds as long as the combined segments 10 to 14; segments 10 to 13 subequal, each about twice as long as the ninth and four-fifths as long as the 14th. Face brown, palpi pale yellow, mouth parts darker yellow. Mesonotum yellowish on anterior half and over base of wings, posterior part of mesonotum, scutellum, pleura and pectus subshining dark brown. Meso-

notum with about five rows of sparsely set, short, brownish bristles, with several more bristles on the humeri and scutellum. Abdomen yellow, some of the intermediate tergites darkened. Legs yellow, apical half of all femora, and on the hind tibia a median ring and apex, fuscous; last tarsal segment on all feet fuscous. Femora unarmed. Fifth tarsal segment of all feet about as long as segments 2 to 4 inclusive, underside on basal half with several pairs of stout, blunt spines. All claws elongate, equal, each with a stout tooth at base. Wings hyaline, with microtrichia, and also with sparsely distributed macrotrichia on apical fourth of wing. Veins pale, costa not produced, R_{4+5} ends about as far before wing tip as the media does behind it; R_{4+5} has the same curvature as the costa, the first radial cell therefore of about the same width throughout; R_1 ends in the wing margin a little proximad of the point opposite tip of anterior branch of cubitus; fork of media broadly sessile as in species of *Palpomyia*; cubital fork under the cross-vein. Halteres pale. Length 2.2 mm., wing length 2.2 mm.

Ithaca, N. Y., July 20. Type in my collection.

Podonomus Philippi

This genus resembles *Pentaneura (Ablabesmyia)* in having hairy wings, m-cu cross-vein present and cubital fork sessile, but differs in having the costa distinctly produced. R_{2+3} is lacking in the male but in the female it is fused with R_1 except at the apex where they are slightly separated. It is closely related to *Trichotanypus* (str. sens.) which differs in having a petiolate cubital fork. *Tanypus tenebrosus* Coq. and *Tanypus arietinus* Coq. belong here as well as *Paratanypus kiefferi* Garrett. If we agree with Edwards ('29) in placing *Prosisoplastus* Kieffer as a synonym of *Podonomus*, *Linacerus* Garrett may also be referred here as the latter genus is congeneric with *Prosisoplastus*, the type species *Linacerus pilola* Garrett having the elongate antennae described by Edwards for *Prosisoplastus sphagnicola* Kieff.

Podonomus (Paratanypus) kiefferi (Garrett). This species, described in 1925 from British Columbia, is a small blackish brown insect, the male having the disistyles of the hypopygium bifid, the base of the style bulbous. A male specimen from Ithaca, N. Y. (May), a female specimen from Orono, Me. (Nov.) and another from Ward, Colo. (Aug.), may be further described as follows:

♂. Antennal segments 2 to 13 inclusive more than half again as long as the apical section which is about as long as segments 7 to 13 inclusive. Hairs of thorax and abdomen brownish yellow. Anterior branch of the radius ends about opposite tip of posterior branch of cubitus; costa ends slightly before wing tip; media ends about in the wing tip; first radial cell distinctly narrower at mid-length than the costal cell at this point; m-cu cross-vein very slightly shorter than the r-m cross-vein. Hypopygium as figured by Edwards ('31) for *P. peregrinus*. Styles bifid, one branch of which is long, tapering and curved, the other a little shorter and blunt with a strong bristle at base. Length 2.5 mm.

♀. Costa nearly reaches wing tip; R_1 and R_{2+3} fused except at tip, giving the appearance of a vein thickened at the apex. R_{4+5} well curved; media ends behind apex of the wing; wing broader than in the male. Length 2 mm.

Podonomus arietinus (Coq.) was described by Coquillett as a *Tanypus*. To the original description of the male may be added that the antennal segments 2 to 13 inclusive are about $\frac{1}{4}$ longer than the apical section; anterior branch of the radius ends about opposite the tip of anterior branch of cubitus; costa produced to wing tip; media ends nearly as far behind wing tip as the posterior branch of the radius does before it; first radial cell at mid-length is fully as wide as the costal cell at this point. Length 2.75 mm. Described from the type specimen.

Clinotanypus Kieffer

A tanypodine genus with bare wings and produced costa; R_2 present, appearing in most cases as a free branch of R_1 ; fourth tarsal segment of each leg shorter than the fifth and cordiform. If the genus is restricted to species having very small acrostichal hairs and the petiole of the cubitus over $\frac{1}{3}$ as long as Cu_2 , as defined by Edwards ('31), a number of species occurring in North America would be included; among these are *flavicintus* Lw., *pinguis* Lw., and *caliginosus* Joh. with a petiole about a third as long as Cu_2 , and *thoracicus* Lw. in which the petiole is scant half as long as Cu_2 .

Cælotanypus Kieffer

Kieffer ('13) erected the genus *Cælotanypus* for species resembling *Clinotanypus* but having a sessile cubital fork designating

humeralis Lw. as the type and with which *tricolor* Lw. is congeneric. Apparently no sharp line can be drawn between species having a short petiole or in which the petiole is lacking, and therefore the species *scapularis* Lw. and *concinus* Coq. should also be included here. In all of them the hair-like acrostichals are lacking.

Diamesa Meigen

Diamesa nivoriundus (Fitch). In 1903 (Bull. 68, N. Y. State Museum) I placed this as a synonym of *Diamesa Waltlii* Meigen, but in 1905 (Bull. 86, N. Y. State Museum) in deference to the opinion of D. W. Coquillett, I applied the name to a species of *Orthocladus* instead. In the thirty years which have elapsed since then I have collected numerous specimens of the species during the winter months, some of them near the type locality, while *Orthocladus nivoriundus* was found only in the early spring. In view of this I am reverting to my original opinion and will call the winter species *Diamesa nivoriundus* (Fitch) and therefore must call the early spring species *Orthocladus nivoriundus* Joh. (not Fitch). The recent work of the European entomologists Edwards and Goetghebuer makes it seem clear that *D. nivoriundus* (Fitch) is not identical with *D. Waltlii* Meigen.

The synonymy now stands as follows:

Diamesa nivoriundus Fitch.

D. Waltlii Joh. '03 (not Meigen).

Orthocladus nivoriundus Johannsen (not Fitch).

This name was first used by Johnson in the List of the Insects of New Jersey but the species was not described until 1905.

Metriocnemus Van der Wulp

Wings hairy, r-m cross-vein short and nearly transverse in position; m-cu cross-vein lacking; style of hypopygium simple as in *Orthocladus*. Fine acrostichal hairs present in the species described by me.

Metriocnemus aequalis new species.

♂. Head, including antennæ, palpi and proboscis, brown. Antennal segment 14 about one and one-half times as long as segments 2 to 13 combined. Eyes bare. Thorax yellow, the three vittæ, pleura, sternum, and metanotum dark brown; scutellum yellowish brown. Abdomen brown, hairs brownish;

hypopygium with the lobe on inner side of basistyle rounded, a little more pronounced than figured by Edwards for *M. subnudus* (Edwards '29, fig. 3 h); anal spur broad and hairy except at tip as in *M. penerasus* Edw. (l. c.). Legs pale brown; proportions of segments of the fore leg to each other are 40, 46, 40, 22, 16, 11, 6; hind basitarsus 0.6 of tibia in length; hind tarsi without spurs. Wings hyaline, hairy on apical half; R_{2+3} ends about half way between tips of R_1 and R_{4+5} ; R_{4+5} ends rather close to wing tip, costa not produced; stem vein with one or two bristles; media ends in the wing tip; Cu_1 ends proximad of tip of R_{4+5} ; Cu_2 slightly bent forward at tip; cubitus forks distad of the slightly oblique and rather prominent cross-vein; anal vein produced far beyond cubital fork. Membrane tinged with brown by transmitted light, more or less milky by reflected light. Squama completely fringed. Halteres yellow. Length 2.75 mm., wing 2.5 mm.

♀ paler than the male. In some specimens, among them one taken in copula with the type, quite yellow, the thoracic vittæ, sternum and metanotum brownish. In other specimens these parts are nearly as dark as with the male. Venation as with the male but the wing is more uniformly hairy and the veins are stronger.

Ithaca, N. Y. June 28; Chicago, Ill.

The specimen recorded by me in 1905 as *M. lundbecki* var. b. and collected in Chicago, belongs here.

Holotype and allotype in my collection.

***Metricnemus hamatus* new species.**

Related to *M. lundbecki* Joh. and *innocuus* Curran, but differing from both in the color of the abdomen and form of hypopygium.

♂. Head and palpi brown, base of proboscis paler; scape dark brown, flagellum of antennæ paler brown; antennal segment 14 slightly more than a fourth longer than segments 2-13 combined. Eyes bare, with strong dorsal projection. Thorax yellow, the three broad vittæ, pleura in part, sternum and metanotum dark brown; scutellum paler brown. Abdomen, including hairs, pale brown. Hypopygium with a low lobe on mesal margin of basistyle, the lobe having at its base a slender, claw-like process the tip of which meets the apical spine of the dististyle when this is flexed inwards. Dististyle broad, broadest beyond middle. Spur of apical tergite moderately broad, short, apex rather slender and bare. Legs yellowish brown; the proportions of the fore leg segments are 42, 48, 38, 18, 14, 8, 6; of the hind leg, 42, 48, 32, 16, 10, 7, 5. Wing moderately hairy except towards base and in the anal cell; stem vein with a hair; first branch of the radius about half as long as the third; second branch ends about half way between tips of the other two branches; costa produced well beyond the tip of the posterior radial branch but ending proximad of the tip of the media which terminates only a very short distance behind the wing tip; anterior branch of the cubitus ends distinctly proximad of the tip of posterior branch of radius; posterior branch of cubitus curved forward at tip and ending

slightly distad of tip of anterior branch of radius; anal vein ends distinctly beyond the cubital fork; cross-vein slightly oblique. Halteres yellow; squamæ partly fringed. Length 2.5 mm., wing length 2.25 mm.

Ithaca, N. Y. May. Type in my collection.

Metriocnemus innocuus Curran. This species is related to *M. lundbeckii* but differs in having an olive green abdomen. A slide of the hypopygium of the type shows the lobe on the inner margin of the basistyle to be more or less right angled. The costæ of the wing is produced.

Metriocnemus lundbeckii Johannsen. Bulletin N. Y. State Museum 86: 302. 1905. ♂. To the original description should be added that the eyes are bare and deeply emarginate, the width between the eyes being only about a fourth the entire width of the head. Antennal segment 14 over a third longer than 2 to 13 combined. Proportions of segments of fore leg are 42, 46, 36, 18, 14, 8, 5; of hind leg are 42, 46, 30, 14, 11, 6, 4. Hypopygium with a large triangular lobe with rounded apex on mesal margin of basistyle, spur of last tergite rather long, slender and bare. Wing disc hairy except for basal fourth, posterior branch of radius ends slightly distad of tip of anterior branch of cubitus; costæ far produced; media ends slightly behind the wing tip; cubitus forks a little distad of the nearly erect cross-vein; second branch of radius ends beyond the mid-distance between the tips of the anterior and posterior branches. Squama sparsely fringed.

♀. Wing wider, hairs nearly reaching the wing base; penultimate antennal segment with tapering neck, the proximal segments more fusiform.

The *M. lundbeckii* var. b (Johannsen, '05) from Chicago is *M. aequalis* Joh.

Metriocnemus (Paraphaenocladus) exagitans Johannsen. Bulletin, N. Y. State Museum 86: 303. 1905. (= *M. brachyneura* Mall. '15). The description of the wing as well as the figure given in the original account are incorrect as a comparison with the type shows. Attention was called to this error in the Kansas University Science Bulletin, page 112, 1908.

♂. Costæ scarcely or but very slightly produced, ending far from the wing tip about opposite the mid point between the tips

of the two branches of the cubitus; media ends in the wing tip; cubitus forks only very slightly distad of the short cross-vein; anal vein produced beyond the cubital fork; hairs on wing more sparsely distributed toward the base. Eyes bare. Antennal segments 2 to 13 about a fifth longer than segment 14. Lobe on the mesal margin of the hypopygium resembling that of *M. impensus* Walker (fig. 12. Goetghebuer, Faune de France); spur of last tergite rather broad at base, apex bare. Proportion of segments of fore legs are 47, 52, 37, 21, 15, 10, 8; hind basitarsus two-thirds as long as tibia. Squama partially fringed. Coloration as given in the original description. Length 1.75 mm. Holotype in my collection.

♀. Wing wider than that of the male, more uniformly hairy; the costa ends slightly proximad of the tip of the anterior branch of the cubitus. Intermediate antennal segments with distinct necks. Differs from the male in being much paler. Abdomen with pale brownish markings on some of the tergites. Length 1.25 mm. The species closely resembles the European *M. impensus* Walker.

Male and female paratype specimens of *M. brachyneura* Mall. do not differ from *M. exagitans* in either color or structural characters.

Brillia Kieffer

Differs from *Metriocnemus* in having the cross-vein very long and oblique with the dististyles of the male hypopygium bifid.

Brillia parva new species.

♂. Head, including proboscis, yellowish, antennæ and palpi more brownish. Last antennal segment three-fourths longer than segments 2 to 13 combined. Pronotum well developed, divided in the middle, yellow; mesonotum yellow with three dark brown vittæ; scutellum brownish yellow; pleura and pectus brown. Abdomen dark brown; dististyles each with two subequal curved branches; the slightly curved basal appendage nearly half as long as the basistyle. Legs yellow; proportions of segments of fore leg are 50, 60, 56, 28, 20, 15, 8; segment four of hind tarsus nearly twice as long as the fifth; pulvilli minute. Wings hyaline, uniformly hairy; costa produced a little beyond tip of the posterior branch of the radius and ending about as far in front of wing tip as the media does behind it; cubitus forks under the middle of the elongate cross-vein. Halteres yellow. Length 3 mm.; wing length 2.5 mm. McLean Bogs, McLean, N. Y.

August 17. Type in my collection.

Brillia par (Coquillett). Dr. Alan Stone of the U. S. National Museum writes in regard to *Orthocladius par* Coq. that the single specimen in the museum is badly rubbed with the wings nearly denuded, but it appears that more hairs are present on the apical half of the wing than on the basal. My *Metriocnemus par* described in 1905 is the same species. On the basis of wing venation and structure of the hypopygium it should be referred to *Brillia*.

Brillia flavifrons (Johannsen). Originally described as *Metriocnemus flavifrons*.

Orthocladius Van der Wulp

Orthocladius furcatus Kieffer. Some female specimens were reared from larvæ found in May in the soil of a greenhouse at New City, Rockland County, N. Y. The larvæ have the curious habit of bending and jumping in a manner similar to cheese skippers. This is a black species, with shining thorax; antennæ provided with forked sense hairs; squamæ with a few hairs in the fringe. The species belongs to Edwards' group B of the sub-genus *Orthocladius* (Edwards '29).

Pseudochironomus Malloch

Besides the genotype *P. richardsoni* Mall., two species, *P. fulviventris* (Joh.) and *P. pseudoviridis* (Mall.), both originally described under *Chironomus*, should be referred here.

Pentapedilum Kieffer

The members of this genus resemble *Tanytarsus* in possessing more or less hairy wings but resemble *Chironomus* in the form of the hypopygium and in having the cross-vein of the wing obliquely placed.

Of eastern species there are *P. (Pentapedilum) fulvescens* (Joh.), *P. (Phaenopsectra) flavicauda* (Mall.), *P. (Phaenopsectra) obediens* (Joh.) and *P. (Phaenopsectra) incomptus* (Zett.). The first three were originally described under *Tanytarsus*, the last one more recently listed under *Metriocnemus*. Furthermore, specimens of *P. (Sergentia) coracinus* (Zett.) have been taken in May by Professor C. Juday at Green Lake, Wisconsin, and by Mr. J. J. Rempel at Cream Lake, Saskatchewan, in June.